

## REMARKS

### I. Status of the Application

After issuance of the January 22, 2008 Office Action:

Pending claims 1-4, 8, and 11 and 12 stand rejected under 35 USC § 112, 2<sup>nd</sup> paragraph.

Pending claims 1-4, 8, and 11 and 12 stand rejected under 35 USC § 102(b) by cited reference USPN 6,007,775 to Yager (hereinafter Yager '775).

Pending claims 1-4, 8, and 11 and 12 stand rejected under 35 USC § 103(a) in view of cited reference Yager '775.

Reconsideration of claims 1-4, 8, 11, and 12 is respectfully requested in view of the foregoing amendments and following remarks.

### II. Amendment to the Claims

Independent claims 1 and 8, are herewith amended to recite the feature:

"depositing a reactive constituent at a stationary position within the finite volume diffusion channel between the first measurement probe and the second measurement probe, wherein the reactive constituent is in fluid communication with the bio/chemical species at said stationary position while the reactive constituent remains fixed at said stationary position within the finite volume diffusion channel, and wherein the reactive constituent is known or suspected of being reactive to the bio/chemical species;"

This amendment is submitted to provide greater clarity in the recited claim features, particularly that the reactive constituent remains fixed at the stationary position when in fluid contact with the bio/chemical species. This feature is disclosed in Figs. 8, 9B, 10A, 11A, 12, and their corresponding descriptions of the specification. Non-elected independent claims 14 and 23 are similarly amended. The Applicant submits that the claims comply with 35 USC 112, 2<sup>nd</sup> paragraph.

IV. Rejections under 35 USC §§ 102(b) and 103(a)

Claims 1 and 8 are each novel over Yager '775, at least in that Yager '775 does not disclose the feature of:

"depositing a reactive constituent at a stationary position within the finite volume diffusion channel between the first measurement probe and the second measurement probe, wherein the reactive constituent is in fluid communication with the bio/chemical species at said stationary position *while the reactive constituent remains fixed at said stationary position within the finite volume diffusion channel*, and wherein the reactive constituent is known or suspected of being reactive to the bio/chemical species;"

As noted in the Applicant's reply of January 14, 2008, Yager '775 does not disclose "depositing a reactive constituent at a stationary position within the diffusion channel", as recited in claims 1 and 8. In Yager '775, the reactive constituent is positioned within a cavity 58, and not within the diffusion channel. The Examiner argues that Yager '775 discloses multiple reagent inlets can be in fixed stationary positions downstream and in series *along* the channel. However, such reagent inlets are not disposed "*within* the diffuse channel" as recited in claims 1 and 8, and accordingly, the recited limitation is not met.

The Applicant further notes that Yager '775 does not disclose the feature that "the reactive constituent is in fluid communication with the bio/chemical species at said stationary position while the reactive constituent remains fixed at said stationary position within the finite volume diffusion channel," as recited in claims 1 and 8. The Examiner argues that Yager '775 discloses the incorporation of a reagent that is at a fixed stationary position within the diffusion channel, citing Yager '775, col. 9, lines 36-48. The Applicant submits that Yager '775 does not disclose use of a reagent having a fixed position within the diffusion channel when in fluid communication with the bio/chemical species.

Col. 9, lines 36-38 of Yager '775 teaches that the reactive constituent can be immobilized on a bead *which is carried by the fluid*. In such an embodiment, the reactive constituent would not "remain fixed at a stationary position within the diffusion channel," as recited in claims 1 or 8. Col. 9, lines 38-48 of Yager '775 describes the illustrated embodiment of Fig. 3 in which the reactive constituent takes the form of a solid pellet and is deposited in a fixed location cavity. However, the reactive constituent does not remain fixed at this stationary position when in fluid communication with the supplied bio/chemical species. Instead, the "carrier stream 140 flows over the reagent pellet and *carries* the dissolved or suspended reagent downstream, as shown by dashed lines 151." Thus, the reactive constituent does not remain at a stationary position within the diffusion channel, but is in motion and carried by the carrier stream 140 within the diffusion channel. Accordingly, the limitation of "the reactive constituent is in fluid communication with the bio/chemical species at said stationary position *while the reactive constituent remains fixed at said stationary position within the finite volume diffusion channel*" is not met.

As noted in the Applicant's January 2008 response, the operation of Yager '775 system depends on maintaining the laminar flow quality of the supplied streams (Yager '775, col. 11, lines 38-42). Depositing a reactive constituent at a stationary position within the flow channel 20 would create significant turbulence in the laminar streams

flowing through the flow channel 20, and thus the skilled person would not have been motivated to modify the Yager '775 system to include such a feature.

Accordingly, as the cited art does not show the operation or structure in which a reactive constituent is deposited at a stationary position within the finite volume diffusion channel between the first measurement probe and the second measurement probe, claims 1 and 8 reciting this feature is novel thereover. Furthermore, because inclusion of this feature would compromise the operation of the Yager '775 system, the skilled person would have no motivation to modify the Yager system to include this missing feature. Thus, as the cited art neither discloses nor suggests the recited combination of features, including the operation of "depositing a reactive constituent at a stationary position within the finite volume diffusion channel between the first measurement probe and the second measurement probe, wherein the reactive constituent is in fluid communication with the bio/chemical species at said stationary position *while the reactive constituent remains fixed at said stationary position within the finite volume diffusion channel*," claims 1 and 8 reciting this feature is allowable thereover. Remaining claims 2-4 and 11, and 12 are dependent from independent claims 1 and 8, respectively, and accordingly, each is allowable for at least the same reasons.

Conclusion

The Applicant submits that the presently pending claims 1-4, 8, 11, and 12 are patentable over the prior art, and accordingly request the issuance of a Notice of Allowance in due course. Should the Examiner believe that an interview would expedite prosecution of the case, a telephone call to the Applicant's representative is invited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Clifford B. Perry", with a stylized flourish at the end.

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